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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/025,333      | 12/19/2001  | Mahendra S. Rao      | UT-0037             | 4765             |

7590 10/05/2004  
Licata & Tyrrell P.C.  
66 E. Main Street  
Marlton, NJ 08053

EXAMINER

HAYES, ROBERT CLINTON

ART UNIT PAPER NUMBER

1647

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |   |                                   |  |
|------------------------------|---|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/025,333      | <b>Applicant(s)</b><br>RAO ET AL. |  |
|                              | <b>Examiner</b><br>Robert C. Hayes, Ph.D. | <b>Art Unit</b><br>1647           |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 21-34 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Cancelled claims 1-15 & new claim 33, drawn to populations of mammalian CNS neuroepithelial stem cells, classified in Class 435, subclass 325.
  - II. Cancelled claims 16-20 & new claim 34, drawn to populations of mammalian CNS glial-restricted precursor cells, classified in Class 435, subclass 368.
  - III. Claims 21-25, drawn to a method of isolating mammalian CNS neuroepithelial stem cells involving co-culturing glial and neuronal cells, classified in Class 435, subclass 373.
  - IV. Claims 26-30, drawn to a method of isolating mammalian CNS glial-restricted precursor cells using antibodies to capture these cells, classified in Class 435, subclass 395.
  - V. Claims 31-32, drawn to a method of generating a population of mammalian CNS motoneurons, classified in Class 435, subclass 377.
2. The inventions are distinct, each from the other because of the following reasons:

Although there are no provisions under the section for "Relation of Inventions" in MPEP 806.05 for inventive groups that are directed to different products, restriction is deemed proper because these products appear to constitute patently distinct inventions for the following reason:

Groups I-II are directed to products that are physically and functionally distinct, which include distinct populations of CNS neuroepithelial stem cells or glial-restricted precursor cells. The cell populations of Group I are fundamentally distinct in that these neural cells can give rise to both neuronal and glial cells, unlike the different CNS glial-restricted precursor cell populations of Group II that alternatively can give rise to only glial cells. It is pointed out that there is a proper distinction between these groups, since each product is not required in order for the other to exist. Therefore, these groups are distinct and separable for the reasons stated.

Although there are no provisions under the section for "Relation of Inventions" in MPEP 806.05 for inventive groups that are directed to different methods, restriction is deemed proper because these methods appear to constitute patently distinct inventions for the following reasons:

Groups III-V are directed to methods for isolating mammalian CNS neuroepithelial stem cells involving co-culturing glial and neuronal cells (Group III), isolating glial-restricted precursor cells using antibodies (Group IV), or generating motoneurons (Group V). Each of these methods requires physically and functionally distinct elements, different method steps, and is directed to different goals. For example, the method of Group IV requires use of glial-specific antibodies, as well as appropriate support structures to isolate glial-restricted precursor cells from neuronal-precursor cells, etc., which are not required in the methods of Groups III and V, and vice versa. The method of Group III further requires isolation and proliferation of CNS neuroepithelial stem cells, unlike the methods of Groups IV and V, which alternatively require either glial-restricted precursor cells, or differentiated motoneuron cell populations, respectively. These inventions, therefore, are patentably distinct, since one is not required for the other.

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It is noted that the products of Group I and Group II can be isolated by different methods, versus the methods of Groups III-IV, respectively; thereby, being patentably distinct, since one is not required for the other to exist.

Because these inventions are distinct for the reasons given above, they have acquired a separate status in the art as shown by their different classification, and the lack of coextensiveness of the search and examination for each group would constitute an undue burden on the examiner to search and consider all the separable groups, restriction for examination purposes as indicated is proper.

3. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Robert Hayes whose telephone number is (571) 272-0885. The examiner can normally be reached on Monday through Thursday, and alternate Fridays from 8:30 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback, can be reached on (571) 272-0961. The fax phone number for this Group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert C. Hayes, Ph.D.  
September 20, 2004

**ROBERT C. HAYES, PH.D.**  
**PATENT EXAMINER**